Please amend the following claims:

5. (Once Amended) A method to control etch profile while etching a microelectronics substrate, the method comprising:

providing an etch chamber and a microelectronics substrate disposed therein; and

pulsing into said etch chamber at least one gas wherein said pulsing imparts a time varying flow rate to said gas for a plurality of periods of said time varying flow rate; wherein the pulsing provides for the alternating steps of:

etching said microelelectronics substrate with said at least one gas; and

forming a deposit with said at least one gas on a side surface of the microelectronics substrate, the deposit preventing additional etching of the side surface of said microelelectronics substrate underneath the deposit.

7. (Once Amended) The method as defined in Claim 5, wherein said substrate is selected from the group consisting of an oxide film, a resist, a multi-layer resist, a metal, a metal alloy, an aluminum alloy, a refractory metal, tungsten, an electrical conductor, and at least one polysilicide.

23. (Once Amended) The method as defined in Claim 5, wherein:

said gas is a protective layer forming gas, wherein the protective layer comprises a polymer;

said microelectronics substrate has at least an oxide layer; and

said gas selectively removes at least a portion of said oxide layer and a vertical profile in said oxide layer.

25. (Once Amended) The method as defined in Claim 41, wherein said microelectronics structure includes a nitride layer.

27. (Once Amended) A method of etching oxide using a polymer, the method comprising:

disposing a patterned semiconductor substrate in a high density plasma etcher, said substrate comprising a silicon layer with a gate stack structure disposed thereon, said gate stack structure being encapsulated by silicon nitride, and layered with an oxide;

selectively removing portions of said oxide by pulsing a fluorocarbon gas; wherein:

said pulsing imparts a time varying flow rate to said fluorocarbon gas for a plurality of periods of said time varying flow rate; and

said fluorocarbon gas forms a protective layer; and

providing a hydrofluorocarbon gas.

28. (Once Amended) The method as defined in Claim 27, wherein said hydrofluorocarbon gas is pulsed into the plasma etcher so that the hydrofluorocarbon pulses alternate with the fluorocarbon gas pulses.

29. (Once Amended) The method as defined in Claim 27, wherein said hydrofluorocarbon gas is pulsed into said high density etcher, wherein pulsing said hydrofluorocarbon gas imparts a time varying flow rate to said hydrofluorocarbon gas for a plurality of periods of said time varying flow rate.

31. (Once Amended) A etching method comprising:

forming a photoresist pattern on a microelectronics substrate that includes both an oxide layer and a nitride layer disposed on a silicon layer;

providing an etch chamber and said microelectronics substrate disposed therein;

pulsing into said etch chamber at least one gas suitable for forming a deposit on at least a portion of said microelectronics substrate, wherein:

said deposit is selected from the group consisting of an oxide film, a resist, a multi-layer resist, a metal, a metal alloy, an aluminum alloy, a refractory metal, tungsten, an electrical conductor, polysilicon, and at least one polysilicide;

said at least one gas comprises a gas selected from the group consisting of a halogenated hydrocarbon, and a fluorocarbon;

said pulsing imparts a time varying flow rate to said gas for a plurality of periods of said time varying flow rate;

said pulsing is applied at a duty cycle range selected from the group consisting of:

from about 20% to about 80% duty cycle;

from about 30% to about 70% duty cycle; and

from about 40% to about 60% duty cycle;

said time varying flow rate varies within a range selected from the group consisting of:

between a high flow rate value of about 30 sccm to a low flow rate value of about 15 sccm;

between a high flow rate value of about 27 sccm to a low flow rate value of about 18 sccm;

between a high flow rate value of about 25 sccm to a low flow rate value of about 20 sccm;

between a high flow rate value of about 20 sccm to a low flow rate value of about 30 sccm; and

between a high flow rate value of about 15 sccm to a low flow rate value of about 20 sccm;

etching said microelelectronics substrate with said a second gas during said pulsing, wherein:

said etching halts on said silicon layer;

said second gas is selected from the group consisting of a polymer forming gas, a polymer etching gas, and a fluorocarbon;

said second gas selectively removes at least a portion of said oxide layer.

34. (Once Amended) The method as defined in Claim 31, further comprising flowing a gas comprising at least one of the gases nitrogen, oxygen and an inert gas into said etch chamber.

35. (Once Amended) An etching method comprising:

exposing a substrate to a plurality of gases, wherein at least one of said gases is pulsed and said pulsing imparts a time varying flow rate to said at least one gas for a plurality of periods of said time varying flow rate; and wherein

at least one of said gases comprises an etchant gas; and

at least one of said gases comprises a polymer forming gas for depositing a protective layer.

37. (Once Amended) The method as defined in Claim 35, wherein said etchant gas comprises one gas selected from the group consisting of a hydrofluorocarbon and a fluorocarbon.

38. (Once Amended) The method as defined in Claim 35, wherein said gas for depositing a protective layer comprises one gas for depositing a polymer.

39. (Once Amended) The method as defined in Claim 36, wherein said gas that modifies the deposition of a protective layer is selected from the group consisting of CO, CO_2, and O_2.

40. (Once Amended) The method as defined in Claim 36, wherein said etch modifying gas is selected from the group consisting of BCl_3 and Cl_2.

Please add the following new claims:

41. A method to control etch profile while etching a microelectronics substrate, the method comprising:

providing an etch chamber and a microelectronics substrate disposed therein;

pulsing into said etch chamber a carbon containing polymer gas suitable for:

forming a deposit on at least a portion of said microelectronics substrate; and

etching said microelelectronics substrate;

wherein said pulsing imparts a time varying flow rate to said gas for a plurality of periods of said time varying flow rate.

42. The method as defined in Claim 5, further comprising flowing nitrogen gas into said etch chamber.

43. The method as defined in Claim 5, wherein said layered substrate comprises a thermal oxide layer disposed on a silicon layer.

44. The method as defined in Claim 43, wherein said etching halts on said thermal oxide layer disposed on said silicon layer.